UNITED NATIONS

UNFCCC Framework Convention on Climate Change

Distr.
GENERAL

FCCC/SBSTA/2002/INF.6
29 May 2002

Original: ENGLISH ONLY

Subsidiary Body for Scientific and Technological Advice
Sixteenth session
Bonn, 5–14 June 2002
Item 5 of the provisional agenda

DEVELOPMENT AND TRANSFER OF TECHNOLOGIES

Report of the technology information expert workshop Beijing, China, 18–19 April 2002

Note by the secretariat

CONTENTS

			Paragraphs	Page
I.	INTRODUCTION		1-6	3
	A.	Mandate	1-2	3
	B.	Scope of the note	3-5	3
	C.	Possible action by the SBSTA	6	3
II.	REPORT ON THE WORKSHOP		7-66	4
	A.	Introduction	7-10	4
	B.	Executive summary	11-20	4
	C.	Needs for and uses of technology information in supporting technology needs assessments and implementation of technology transfer activities	21-37	6
	D.	Role of technology information in multilateral and bilateral donor programmes	38-41	9
	E.	Feedback to the UNFCCC technology information system	42-44	9
	F.	Summary of submissions from Parties	45-46	10

		Paragraphs	Page
G.	Options for establishing the technology information clearing house and networks of technology centres	47-56	10
H.	Roles and contribution of Parties	57	12
I.	Role of the secretariat	58-59	12
J.	Possible elements for future work	60-66	12

Annexes

I. Summary of submissions from Parties 14

II. International organizations: sectoral coverage and possible collaboration.... 22

I. INTRODUCTION

A. Mandate

1. By its decision 4/CP.7, the Conference of the Parties requested the secretariat to organize an expert workshop on technology information, including options for the establishment of an information clearing house and enhancement of information centres and networks, and to further define the user needs, criteria for quality control, technical specifications and the role and contribution of the Parties, and to report on options and recommendations to the SBSTA at its sixteenth session (FCCC/CP/2001/13/Add.1, annex, para. 10 (c)-(d)).

2. At its fifteenth session, the SBSTA invited the Parties and relevant international organizations to register and test the prototype technology information system and to submit their views to the secretariat by 15 February 2002 on: technical paper FCCC/TP/2001/2[1]; the issues identified in the annex to document FCCC/SBSTA/2001/4[2]; the roles of Parties in supporting the technology information system; and any feedback on testing the system. It further requested the secretariat to continue its work on the technology information system, drawing on links between its work and the work of existing institutions and networks, in particular, information relating to adaptation technologies; and to explore the feasibility of including information on private and publicly-owned technologies, joint research and development programmes, examples of success stories and case studies on technology transfer (FCCC/SBSTA/2001/8, para. 33 (b)-(d)).

B. Scope of the note

3. The technology information expert workshop was organized by the secretariat with the kind assistance of the Government of China. The workshop was held in Beijing from 18 to 19 April 2002, and was hosted by Tsinghua University.

4. This note presents the report of the workshop. The report takes into account information and ideas presented in workshop presentations, and in panel and general discussions as well as in submissions from Parties (FCCC/SBSTA/2002/MISC.12) and users' feedback provided to the secretariat through direct discussions, e-mails and the TT:CLEAR[3] web board.

5. The note should be read in conjunction with the report of the expert meeting on methodologies for technology needs assessments, held in Seoul, Republic of Korea, from 23 to 25 April 2002 (FCCC/SBSTA/2002/INF.7). Additional information relevant to the issues discussed in this note can be found in technical paper FCCC/TP/2001/2, prepared by the secretariat, and the progress report FCCC/SBSTA/2001/4.

C. Possible action by the SBSTA

6. The SBSTA may wish to take note of the information contained in this document, and where necessary:

(a) Provide further guidance to the secretariat with regard to its work on the technology information system and web page, including its role in the development of the technology information clearing house;

---

1 "Technology transfer clearing house and international information network: proposal for activities".
2 "Progress report on the development of a technology information system".
3 http://ttclear.unfccc.int/ttclear/Jsp

(b) Seek technical advice from the Expert Group on Technology Transfer on ways and means to develop the information clearing house and to enhance the technology information centres and networks;

(c) Invite Parties and relevant international organizations to provide support for the development of the technology information clearing house, including technology information centres and networks

II. REPORT ON THE WORKSHOP

A. Introduction

7. The agenda for the workshop included nine sessions covering issues such as needs and uses of technology information in supporting technology needs assessments, current multilateral technology information activities, role of technology information in donor programmes, feedback to UNFCCC technology information system, options for establishment of an information clearing house and technology transfer networks and matchmaking systems, and the role and contributions of Parties in establishing and maintaining the system. Each session, with the exception of the first one, included presentations followed by group discussions. The agenda was developed, in consultation with Mr. Kok Kee Chow, who was requested by the Chairman of the SBSTA, Mr. Halldor Thorgeirsson, to chair the workshop on his behalf.

8. The workshop was attended by 48 participants, including 18 from non-Annex I Parties, representing Asia and the Pacific (9), Africa (6), and Latin America and the Caribbean (3). Thirteen representatives from Annex I Parties also participated in the workshop, including one representative from countries with economies in transition. Sixteen participants represented seven intergovernmental organizations and one non-governmental organization. One participant from the private sector also attended.

9. The objectives of the expert workshop were to identify and define possible options for establishment of a technology information clearing house and enhancement of technology information networks. In addition, the workshop also reviewed the feedback from Parties on testing TT:CLEAR, and further defined user needs for information, criteria for information quality control, technical specifications of the clearing house and roles and contributions of Parties.

10. The expert workshop generated a total of 29 technical presentations, 3 background papers and a productive discussion at plenary sessions. The agenda, the list of participants and the presentations were made available for reference in hard copies and were posted on TT:CLEAR and on the secretariat's web site[4].

B. Executive summary

11. A key message is that considerable institutional capacity to provide information relating to the transfer of environmentally sound technologies and know-how already exists. Much of this capacity is distributed among relevant United Nations organizations and specialized agencies, and the national and regional networks which they serve. Therefore one main challenge is to promote effective international coordination on sharing technology transfer information by creating a virtual technology information clearing house, which would include relevant technology information systems, other clearing houses, web sites and networks. Furthermore, significant information on environmentally sound technologies, including on indigenous technologies, exists in many developing countries. Therefore, this cooperation should be promoted also at national level.

---

[4] http://unfccc.int/sessions/workshops.html

12. A number of participants expressed their belief that the technology transfer clearing house should be more than a web site. In their opinion, the clearing house should:

(a) Include a network of experts to provide "face to face" assistance and of intermediaries to facilitate contact between the providers and recipients of technologies;

(b) Have a strong matchmaking component to help match proposed country actions with donor programmes;

(c) Provide information regarding opportunities to participate in workshops and training courses at regional and national level.

13. During the workshop the participants stressed that the provision of information through the clearing house should be demand driven. The system should provide information for all type of users, including practitioners and technical experts directly involved in technology transfer activities.

14. The UNFCCC technology information clearing house could provide fast access to up-to-date information on the latest technology transfer projects, environmentally sound technologies and know-how rather than acting as a super site centralizing information. It should complement and work with existing clearing houses and web sites of other relevant international organizations and national and regional technology information centres and should connect to existing governmental, business and donor networks. Some of these clearing houses and web sites provide useful information which is not necessarily dedicated to the technology transfer process under the UNFCCC. Therefore, it will be useful if a dedicated clearing house like TT:CLEAR will be able to network these nodes, using the Internet, and eliminate the need for a super site.

15. Some of the lessons learned from international organizations which have established and are operating successfully similar clearing houses are:

(a) The design of the clearing house should be demand driven, customized for well identified needs partners and based on a strategic approach describing how it will fill the specific niche;

(b) The overall management should be entrusted to an informal group of experts, including clients of the system. Assessments should be made using benchmarks and performance indicators and, if possible, by external reviews;

(c) There would be an advantage in establishing an efficient network of national focal points and encouraging national clearing houses to promote and outreach the service and to make it known;

(d) The resource implications can be significant, even for a clearing house with a relative limited scope. There is a need to establish priorities for the clearing house and to maintain a core set of information and rely extensively on links to existing sources of information.

16. It was noted that there is a lack of available information on publicly owned technologies, adaptation technologies and joint research and development programmes. Additional information related to environmental standards and regulations and technologies in agriculture, forestry and waste sectors should be made available through a relevant clearing house. Therefore, one main challenge remains to identify information gaps together with the organizations and mechanisms to fill them.

17. A key element for successful provision of information in support of development and transfer of climate change friendly technologies is to tap into existing governmental, donor and expert networks and mobilize the private sector and other intermediaries to contribute their knowledge and skills.

18. The testing of TT:CLEAR, initiated at the fifteenth session of the SBSTA, generated good feedback and recommendations for improvement of the system. However, the number of registered users was considered insufficient to draw conclusions with regard to the usefulness of the system. Therefore, many participants suggested extending the testing period and initiating an outreach programme to make TT:CLEAR known to a broader audience, including practitioners.

19. The workshop provided a framework for effective exchange of views between Parties on issues related to technology information. While encouraging the secretariat to continue its current effort on the technology information system, the participants were of the view that the system should be promoted and be open to the public. An assessment of its usefulness should then be carried out after a period of one year.

20. Some participants felt that the recently established Expert Group on Technology Transfer could consider the issues related to the design, establishment, peer review and evaluation of the effectiveness of clearing houses.

C. Needs for and uses of technology information in supporting technology needs assessments and implementation of technology transfer activities

21. The technology information component of the framework for meaningful and effective actions to enhance the implementation of Article 4.5 of the Convention (decision 4/CP.7) defines the means, including hardware, software and networking, to facilitate the flow of information between the different stakeholders to enhance the development and transfer of environmentally sound technologies. Technology information is of vital importance for effective implementation of the full range of technology transfer activities under the UNFCCC, including technology needs assessments and implementation of technology transfer activities.

22. Participants suggested that conducting technology needs assessments is a first step towards identifying technologies for which replication, adaptation and dissemination is possible, and towards understanding the barriers which may prevent the transfer of technology and taking action to remove them. In this context, the participants reaffirmed the essential role of ensuring access to up-to-date information on environmentally sound technologies for conducting technology needs assessments. Technology information is needed for preparation of the scoping document, technology selection and ranking, forming partnerships and compilation of information on different donor programmes, analysis of barriers and evaluation of ways to overcome them, and action design.

23. Compilation of technology information for conducting technology needs assessments may include:

(a) Identification of technological options for each subsector (international and national sources) and analysis of their technical, economic and environmental benefits and limitations as to their implementation potential;

(b) Identification of key national organizations and stakeholders;

(c) Information from the donor community on business contacts, relevant donor activities, and market information;

(d) Information from national stakeholders on priorities, sectoral plans related to technology transfer, previous activities, barriers to technology transfer and private perspective;

(e) Information from the private sector on technical, economic and environmental data on different technological options, methodologies to assess technologies, and business contacts.

24. In general, the technology is selected on a variety of criteria including development benefits (e.g., job and wealth creation, capacity-building, social acceptance of the technology), market potential and sustainability (availability of finance, investment sustainability, maintenance costs, commercial availability, replication potential). One challenge is how to balance these criteria (country driven). In this context, the inventory of methods, models and tools should contain also tools to support decision analysis.

25. The perspective of some participants with experience in providing support and building capacity for undertaking technology needs assessments was also presented at the workshop. According to them:

(a) One key element for accessing reliable technology information is to tap into technical, business and governmental networks;

(b) The intermediaries have a significant "middleman" role in relaying the appropriate information to the business sector;

(c) Information was sometimes missing on local technologies, market potential of technologies, technical experts that may provide support, and methods, models and tools which may be used to conduct technology needs assessments.

26. Participants noted that a considerable amount of information comes from national sources such as national communications, national development plans, national mitigation analyses, and stakeholders. Therefore, it was suggested that the establishment of national clearing houses on technology transfer may prove useful for strengthening the access to appropriate local information.

27. During its presentation, the UNFCCC secretariat suggested that TT:CLEAR could be used to access some of the information needed to conduct needs assessments such as:

(a) Current and planned national and donor programmes (e.g., GEF Project Map, projects cited in initial national communications of non-Annex I Parties and national communications of Annex I Parties);

(b) Information needed in forming partnerships: identification of businesses and investors interested in projects in a given country, current and planned donor programmes from GEF, some implementing agencies and bilateral development agencies, and experts who can assist in the needs assessment process (TTContacts and UNFCCC roster of experts);

(c) Inventory of mitigation and adaptation methods, models and tools which may be used to carry out technology needs assessments;

(d) Performance, costs and benefits of different technological options (e.g., CADDET and maESTro);

(e) Case studies and lessons learned, compilation of barriers and measures to overcome them, and a database of links to Internet sites related to enabling environments for technology transfer.

28. Many participants suggested that TT:CLEAR could include the results of needs assessment studies carried out so far to make them known through existing technology information networks to potential investors. A further suggestion was to develop matchmaking capacities in the future.

29. It was generally recognized that, for countries which have already conducted technology needs assessments and are in the phase of implementing technology transfer activities, other types of information may be needed:

(a) Procedures and sources of financing, investment incentives, concessional terms for financing, export credits, banking and insurance information;

(b) Training courses, and capacity-building activities, including on enabling environments for technology transfer;

(c) Know-how, joint research and development projects and support programmes;

(d) Support programmes to enhance networking among regional information centres.

30. One important role for technology information is to provide access to public domain technologies and institutions interested in participating in joint research and/or technology cooperation activities. However, the information on publicly owned technologies is scarce and inconsistent.

31. An important step toward improving the flow of information is to enhance the capacities of existing regional and national technology centres. These centres play an essential intermediary role between providers and users of technology. The challenge remains how to integrate the existing centres for technology transfer into a functional network.

32. Some participants felt that it would be useful to have the information available in TT:CLEAR translated into other official languages of the United Nations.

33. Many small and medium size enterprises and rural users are still unable to access the Internet. Alternative means such as CDs, newsletters and printed materials should therefore be disseminated through national focal points and regional or national technology centres.

34. One proposal was to use a satellite dish technology for providing access to the Internet in remote areas or in countries with poor communications systems. Such a system may be powered by a solar panel and has a capital cost of US$ 20,000 – 30,000 and operating costs of US$ 500 to 800/month.

35. Another important point raised was quality control and comparability of information. It was suggested that quality control should be the responsibility of the host country and the network of experts and technology centres can provide it. Quality control of the information can be difficult and demanding, taking into account the diversity of information sources and the need to avoid subjective judgment and filtering of the information.

36. Some participants suggested that, in collecting, analysing and disseminating technology information, there is a need to emphasize more the sectoral approach. Further analyses are needed on specific barriers to accessing information for sectors such as transport, agriculture, waste, industry and forestry.

37. The participants recognized that there is still a poor technical information base in many countries, which seriously affects the capacity for effective identification and selection of technologies. Possible improvements include:

(a) Information on ongoing and planned technology cooperation projects, including those mentioned in national communications of Annex I Parties and in initial national communications of non-Annex I Parties;

(b) Information on technology performances and costs, case studies of successful projects, and analytical tools to evaluate and rank technologies and activities;

(c) Information on, and networks of technical experts who can assist countries with the implementation of needs assessments and design implementation of technology transfer activities;

(d) Information on, and network of businesses and investors and systems to promote business-to-business matchmaking and provide project development support;

(e) Networks and information tools that can link country technology transfer needs with existing and planned donor programmes supporting the implementation of technology needs assessments by developing and countries in transition;

(f) Information on methods for assessing technologies and conducting needs assessments and examples of assessments and technology transfer activities implemented by other countries.

D. Role of technology information in multilateral and bilateral donor programmes

38. Many international organizations have active programmes on providing information on environmentally sound technologies and different aspects of technology transfer. Several of these programmes were presented during the workshop.

39. A key element for successful implementation of the clearing house is how to coordinate the technology information activities of Parties, United Nations agencies and other international organizations and establish a means of information sharing. A possible arrangement for focal points and sectoral coverage by different international organizations is shown in annex II.

40. It was suggested that the role of these agencies is to present the case and facilitate cooperation, based on a technology neutral approach. In many cases their focus is on sustainable development and climate change technology projects are often a strong option.

41. The information provided in different donor programmes spans a broad range of issues such as technological options, how to access, finance, install and maintain, monitor and replicate technologies, and national and local situations.

E. Feedback to the UNFCCC technology information system

42. During the workshop, the secretariat reported that TT:CLEAR had started up in September 2001. Since then, some 200 users had registered with the system. It can be noted that the number of users per country is lower for developing countries than for Annex II countries. The registered users have a broad expertise, varying from experts in ministries and private industry to media representatives and students.

43. Many of the comments received related to site functionality and/or the user interface, and they were taken into account in the current version of the system. During discussions and presentations, it was noted that many users were not able to discover alone different basic functions of the system such as the project search engine, although a guideline for testing the system is available for download. This may be an indication that the user interface should be further streamlined to provide simple access to the different functions of the system. Nevertheless, as the system complexity increases, this may also indicate that a user's guide and/or orientation is needed.

44. Since the fifteenth session of the SBSTA, the secretariat has continued its work to enhance and update the inventory of technology cooperation projects, review and update the generic database of mitigation and adaptation methodologies and identify information gaps and potential sources of information and/or cooperation mechanisms for completing this database. The main results of this work were reported during the workshop.

F. Summary of submissions from Parties

45. Five Parties submitted their views on the technology information systems.[5] One Party, Spain, submitted its views on behalf of the European Community and its member States and eleven other P .rties.

46. A summary of these submissions is presented in annex I. Some of the issues included in the submissions were also discussed in various sessions of the expert workshop.

G. Options for establishing the technology information clearing house and networks of technology centres

47. One theme which surfaced in many discussions was, "What is a clearing house?". An information clearing house can offer a structured entrance to information in the Internet. It is thus an interface between users and relevant information scattered in the Internet. It can function as a detailed catalogue service with support for links to technology information. A clearing house can be a central access point, which aims to minimize the duplication of effort through identifying, describing and evaluating information on the Internet. Clearing houses can be online resources providing information and pointers to the most relevant technology information available on the Internet.

48. Most of the participants agreed that providing information is only one of the functions of the technology clearing house, which was seen as more than a web site. In their opinion, the clearing house should:

(a) Consist of a network of existing information systems, clearing houses, web sites, and networks;

(b) Include a network of experts to provide "face to face" assistance and of intermediaries to facilitate the contact between the providers and recipients of technologies;

(c) Have a strong "matchmaking" component to help match proposed country actions with donor programmes;

(d) Act as a forum for exchanging views, including through workshops and training courses at regional and national level.

49. Participants identified the following key principles and possible pathways for delivering technology information through the clearing house in the context of the Convention:

(a) Build on existing sources of information and link existing programmes, systems and networks. Avoid repetition and streamline access to information;

(b) Ensure that information dissemination is demand driven, flexible and adaptable to national circumstances and tailored to users' needs. Build user ability to judge what is good for their situation; (e.g., communicate, get advice, improve ability, establish their own plant);

(c) Train and strengthen focal points and promote exchange of information between real people and national and regional technology centres. Stimulate the involvement of intermediaries;

(d) Adopt a decentralized solution but a central entry point, sending users quickly to other sites;

---

[5] FCCC/SBSTA/2002/MISC.12.

(e) Stimulate participation of the private sector, which is the custodian of most of the relevant technology information;

(f) Maintain focus by limiting the scope to technologies available for transfer or transferred under the Convention process.

50. A number of participants suggested that the function to be performed by the clearing house should be designed having in mind its possible use. They recommended analysing different practical tasks such as finding information on technical experts, finding a technology, and comparing technologies, and then building capabilities in the system to perform these tasks.

51. Key challenges in implementing the technology clearing house identified during the workshop include:

(a) How to access the relevant information and avoid over-filtering the information?

(b) How to make the requirements identified through initial national communications known to the donor community?

(c) How to design a gateway to such a diverse range of technologies? How to move from information to knowledge?

(d) How to make TT:CLEAR known to a broader audience, including practitioners and businesses. What is the competitive advantage and niche of TT:CLEAR and how to develop it further in this light?

52. Two options emerged from discussions for establishing the technology information clearing house:

(a) Option 1: a centralized clearing house is established under one institution;

(b) Option 2: a virtual clearing house is established by primarily linking and enhancing existing systems.

Toward the end of discussions on this topic, many participants expressed their preference for option 2.

53. Several ideas were put forward by participants with regard to the role and use of networks:

(a) Different types of networks and matchmaking systems were suggested to be linked to the clearing house: networks of experts or practitioners to help assess the information provided and provide "face-to face" support, governmental networks, networks of focal points (on a regional basis), donor networks and business networks;

(b) Many such networks already exist and are functioning well. Therefore, the participants suggested finding the types of service which the clearing house may offer, detecting imbalances between supply and demand of such services and reaching out to those institutions interested in participating;

(c) One possible way to simplify the access of businesses to a technology transfer network is to create an ad hoc, peer-to-peer, network. A proof of concept solution to support such a network was presented by the secretariat. It includes technology data providers, hubs (national/regional centres) and consumers and it provides tools to support the network, including distributed searches of information.

54. Many participants agreed that the private sector can play an important role in supporting technology transfer and matchmaking systems by, inter alia, providing valuable expertise and developing, financing and marketing specific information products.

55. Some of the lessons learned from private sector involvement in technology information dissemination are:

(a) Business values highly up-to-date information. However, information is not enough and other mechanisms are needed to attract its participation;

(b) Matchmaking systems between potential consumers and suppliers are warmly welcomed;

(c) Companies are used to paying for business information;

(d) One particular barrier is that the language of climate change makes the overall process exclusive to those already familiar with it.

56. One participant expressed concerns as to whether the establishment and management of the clearing house was the most appropriate role for the secretariat.

H. Roles and contribution of Parties

57. Several ideas were put forward concerning possible roles and contributions of Parties to the establishment and operation of the technology clearing house, including:

(a) Give assistance in updating system information on the projects undertaken to accomplish the objectives of the Convention and the Kyoto Protocol;

(b) Identify groups of experts and promote the use of the system by these experts;

(c) Collaborate in identifying the relevant sources of information in their countries;

(d) Communicate to the system administrator news that could be included in the system (tax incentives, legislative news, excerpts of journals or technical papers, news considered relevant to other Parties, etc). Further discussion is still needed in terms of what could be the cost of providing this service;

(e) Provide information on methods, models and tools, including those for decision analysis, which may be use to evaluate technological options and conduct technology needs assessment.

I. Role of the secretariat

58. The secretariat was requested in decision 4/CP.7 to develop a new search engine on the Internet and to accelerate its work on development of a technology transfer information clearing house. The decision emphasizes cooperation with the Climate Technology Initiative and other relevant organizations as well as the networking with existing information centres.

59. Some Parties supported the above-mentioned decision on the understanding that the secretariat has a leading role in the current work on the technology information component of the framework. What role the secretariat should have in the future needs to be discussed within the overall dialogue to assign appropriate roles to the various stakeholders in the information system on technology transfer.

J. Possible elements for future work

60. Continue the testing period for TT:CLEAR, and invite the Parties, relevant international organizations, and the private sector to register and test the system further. Collect feedback from Parties on their experience in using the system, summarize the results of the testing period, and report to the SBSTA.

61. Initiate an outreach programme to make the system known and open the information clearing house to a broader audience.

62. Widen the system by connecting TT:CLEAR to a network of regional and national centres (one centre to start with). Identify technology information focal points.

63. Compare information needed to carry out technology needs assessments completed recently with what TT:CLEAR is providing and then assess what else needs to be included.

64. Initiate technology information forums for one or two regions, including a dedicated dialogue to identify centres and networks in the region and provide them guidance on using the system. Learn their needs and identify information gaps.

65. Continue collaboration with relevant international organizations to link the UNFCCC clearing house to existing technology clearing houses, web sites and networks, particularly through the establishment of focal points.

66. Invite Parties to submit their lists of national web sites which may be linked to TT:CLEAR and of technology transfer centres to be included in the TT:CLEAR databases.

Annex I

SUMMARY OF SUBMISSIONS FROM PARTIES

No.	Issue	Possible actions	Remarks
1.	Ensure that clients' needs are met (what needs and users should the clearing house serve?).	• Maintain focus.	• NO to proposed online clearing house functions rating system • Controversy NO/YES to technology forum. One Party opposes the forum. Another Party considers this a good feature but recommends several forums by user type. Users are recommending forums with a mediator. • Complex tools for decision-making analysis are not necessary in the near future, given limited resources and time.
		• Make certain that information on technology transfer is 'user-friendly' so that it is accessible to the widest possible audience	• The technology information system must not be complicated.
		• An overview and/or a brief introduction should be provided on the main page of each module.	• Added brief introductions for technology needs assessments, links and methods.
		• The table of contents and the instructions for using TT:CLEAR should be available in official languages of the United Nations.	• To be added in future versions (already tested with Chinese).
2.	Clarify the structure and functions of the clearing house.	• Conduct a full and comprehensive needs assessment of different functions of the clearing house before details of different data sets are finalized or further elaborated. Such needs assessment should focus on both the end-user and the applicable technologies and presentation of the results. In this context, particular attention should be paid to the specific constraints and needs expressed by developing countries. The output of these further needs assessment considerations should then determine aspects of the clearing house structure.	• An objective of the expert workshop. It may be analysed further by the Expert Group on Technology Transfer.

No.	Issue	Possible actions	Remarks
		• The clearing house should function as a gateway to existing databases on environmentally sound technologies instead of serving as an information library. • Maintain the clearing house as an agent or broker for information access be kept alive, rather than as an all-encompassing archive.	• Implemented through the distributed search engine and the database of links to relevant web sites.
3.	Maximize the use of existing institutions, networks and resources.	• Linkage to and incorporation of, other technology transfer initiatives. • Entrust another organization with the day-to-day management of TT:CLEAR (centralized clearing house).	Request Parties to identify other initiatives to be included in the network.
4.	Recognize the pivotal role of the private sector in the transfer of climate technologies, as identified through the regional consultative process.	• Make explicit that the commercialization of technology is often the optimal method for technology transfer. • Ensure that practitioners/programme managers are able to access the information on technology. Focus on ensuring that these people are aware of this initiative, and other existing mechanisms for technology transfer.	

No.	Issue	Possible actions	Remarks
5.	Build on results of the technology needs assessments.	• Draw upon existing mechanisms such as information made available from national communications and other related national reports and channels (e.g. national adaptation plans of action that will be prepared by least developed countries).	
		• Incorporate a tendering system for projects.	• Will allow potential recipient countries, donor countries, private sector partners and international financial institutions to post competitions for specific projects. This enhancement would enable a competitive process whereby technology providers may bid for contracts and recipients and funding agencies may conduct their own evaluations to select the most suitable bids.
		• Establish an inventory of existing methodologies.	• An inventory of mitigation and adaptation methods, models and tools has been added since the fifteenth session of the SBSTA.
6.	Ensure the sustainability of these systems to facilitate technology transfer.	• Formulate a detailed evaluation plan during the testing period, consisting of a concrete set of outcome measures.	
		• Develop a clear understanding of the resource implications of TT: CLEAR.	• A financial range (with low and high approximations) must be given at the outset. Such an approximation would give Parties a sense of future commitments and project designers an approximate target for future budgeting. Meanwhile, a more detailed financial breakdown for present activities of the technology information system is needed.

No.	Issue	Possible actions	Remarks
7.	Look at possibilities for cost recovery through nominal user fees for private firms.	• Nominal charges for the use of some aspects of the system by private sector firms could be levied as a means to supplement current funding for the start-up and to finance maintenance and modifications.	
8.	Adopt a communication strategy and outreach programme.	• Identify national focal points and initiate actions to make the system known in their countries. • Invite centres identified following the SBSTA request to review their information and provide feedback.	
9.	Develop links to national technology transfer facilities.	• Invite Parties to provide such links.	
10	Include a "news" module focusing on information related to design and operation of the technology transfer mechanism.		• News on policy changes, project progress, and any activities related to technology transfer. • Brief guidance on and introduction to the latest scientific findings and technological inventions.
11.	Further enhance, on the basis of continuous reviews by users, the information coverage, depth and accuracy.	• Define criteria and methodology for selecting technologies and projects for the databases. • Establish a mechanism for data maintenance and update. • Measures to improve the reliability of data and information sources should be taken into account. A close assessment should be made of the correlation and relationship maintained between information and data from and available to private sector projects and technologies and those led by national and international institutions in the clearing house.	• • Reduce complexity by concentrating on technologies available or used for transfer under the Convention. • Include in the system at least one project for each adaptation and mitigation area (EU); • Role of Parties is essential in maintaining and peer reviewing information.

No.	Issue	Possible actions	Remarks
12.	Inventory of technology cooperation projects contains mainly capacity-building activities.	• Coordinate with capacity-building activities under the Convention.	
13.	In order to guarantee that most appropriate technologies are selected from the databases, comparison of technology levels should be made possible not only between technologies in developed and developing countries, but also between advanced and laggard technologies among developed countries.	• Comparison is only possible between [energy] technologies already in the database.	
14.	There is no mechanism for updating the technical paper FCCC/TP/2001/2, but this is necessary for enhancing the design of the clearing house.	• Consider revising the technical paper to include missing elements and enhancements.	
15.	Role of Parties.	• It would be helpful if Parties provide and update the data and information regularly. However, developing country Parties may lack the necessary resources, in which case financial and technical assistance should be made available to them for that purpose.	

No.	Issue	Possible actions	Remarks
16.	Role of the secretariat.	• The framework for meaningful and effective actions to enhance the implementation of Article 4, paragraph 5, of the Convention, stipulates in paragraph 2 the approach required for the successful development and transfer of environmentally sound technologies. It requests the secretariat to develop a new search engine on the Internet and to accelerate its work on the technology transfer information clearing house. It emphasizes cooperation with the Climate Technology Initiative and other relevant organizations as well as networking with existing information centres. • One Party fully supports decision 4/CP.7 on the understanding that the secretariat has a leading role in the current work on the technology information component of the framework. What role the secretariat should have in the future needs to be discussed within the overall dialogue to assign appropriate roles to the various stakeholders in the information system on technology transfer.	
17.	Acknowledge how relevant the access to patent documents is in the context of technology transfer, several links to the most relevant sources of this kind of information could be included in TT:CLEAR.	Some organizations have made available information on technologies free of charge via the Internet by providing access to a large amount of patent documents (which have been scanned and are available in .pdf format). In this way, 30 million documents from more than 50 countries are available (offered free of charge by the European Patent Office).	
18.	Use international patent classification (IPC).	• Classification developed under the World Intellectual Property Organization with approximately 69,000 subdivisions	• Is flexible to accommodate future technologies, exists in several languages
19.	Capabilities of the search engine.	• Uses patent information search engines. • Makes the documents searched from outside databases linked to this information system accessible.	

No.	Issue	Possible actions	Remarks
		• Broader links may be established between the search engine and web sites of more Parties, professional and business societies, non-governmental organizations and excellent research institutions. • In the searching process, the key words are given by the system rather than being entered by users, which is inconvenient for users in many cases.	
20.	Establish national, regional and subregional centres.	• GEF and/or UNFCCC should provide support for such centres.	• These centres will have the role of, inter alia, integrating information, providing feedback, exchanging experience, capacity-building and contributing to establish priorities and policies for sustainable development.
21.	Technology database.	• Link with financial information, policies. • Add an attribute on technology ownership.	
22.	In some countries, there are problems of reliability, security, and limitation of access to the Internet.	• Disseminate the information on technology transfer on CD-ROMs, diskettes, and/or by newsletter. • Investigate technical options and costs for satellite dish connection.	

No.	Issue	Possible actions	Remarks
23.	Side-by-side comparisons of technologies.	• Other complementary tools should also be developed for technology comparison. In this way, the risks of systematic distortions and errors can be avoided more or less. • The development of additional tools, as well as the rationales of side-by-side comparisons and criteria for technology classification, should be further elaborated by the Expert Group on Technology Transfer and Parties.	• It is useful as one of the tools for technology comparison.

Annex II

INTERNATIONAL ORGANIZATIONS: SECTORAL COVERAGE AND POSSIBLE COLLABORATION

Organization	Proposed 'in house' sectoral coverage	Proposed specific collaboration partnership
Global Environment Facility	Projects financed under the climate change focal area	Projects financed under the climate change focal area
Organisation for Economic Co-operation and Development (OECD)	Focal point for information on official development assistance	Access to climate change data from creditor reporting system
Food and Agriculture Organization (FAO)	Agricultural focal point	Access to information on adaptation technologies
United Nations Environment Programme (UNEP)	Environmentally sustainable technologies for industry projects and processes with particular focus on mitigation technologies Technologies cross-cutting with the Montreal Protocol Energy technologies Networks of technology transfer practitioners	International Environmental Technology Centre (Japan) focusing on environmentally sound technologies for urban and freshwater management UNEP – Ozone action UNEP Collaborating Centre on Energy and Environment (according to expertise) UNEP SANet programme
United Nations Industrial Development Organization (UNIDO)	Focal point for industry-related activities directed at reducing industrial greenhouse gas emissions	UNIDO (Cleaner Production Centres programme)
International Energy Agency (IEA)	Focal point for mitigation technologies in demonstration phase (energy efficiency and renewable) and directory of organizations	CADDET and Greentie
World Health Organization (WHO)	Health focal point	Inter-Agency Network on Climate and Human Health (ICHN) comprising WMO, UNEP and FAO (tentatively)

Word Meteorological Organization (WMO)	Hydrological and agricultural focal point (others could be considered)	FAO, UNEP, United Nations Educational, Scientific and Cultural Organization and international agricultural research centres under the Consultative Group on International Agricultural Research
World Bank		Development gateway – access point to many development projects.

- - - - -